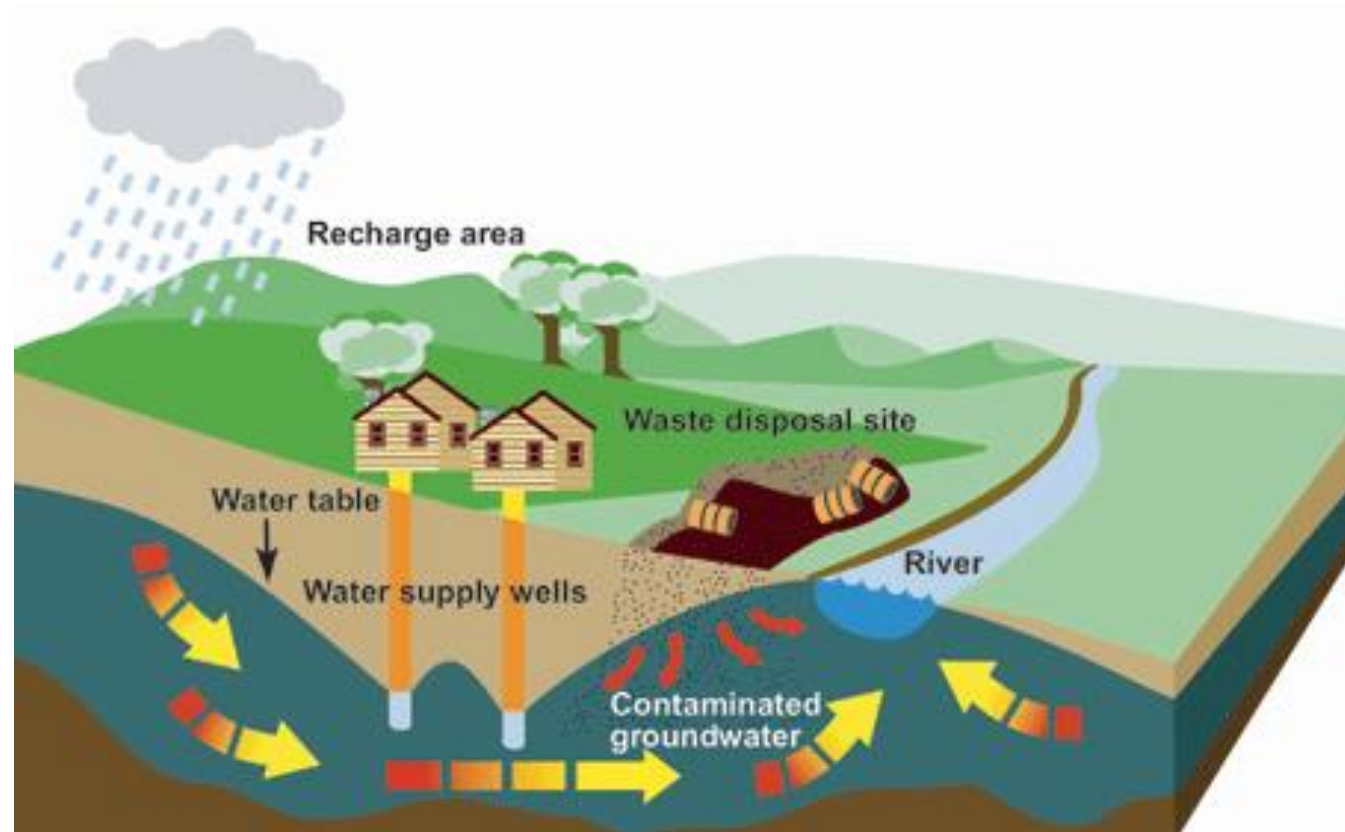




**JOINT BRUNSWICK  
COUNTY PLANNING &  
PUBLIC UTILITIES**  
*community meeting*

# Background

- ❑ Brunswick County Utilities have 14 public community wells in the NC 211 Corridor that get water from the Castle Hayne Aquifer.
- ❑ These wells provide raw water to the NC 211 Water Treatment Plant for public water throughout their service area. There are 12,574 customers that get water from these wells.
- ❑ Aquifers and other water sources can be contaminated. The Castle Hayne Aquifer lacks a confining layer of soil making it more susceptible to contamination than other aquifers in the region.
- ❑ Contamination can occur from many sources including wastewater discharges, underground storage tanks, urban storm water runoff, or other types of non-point source contamination such as runoff produced by agricultural activities, junk yards, vehicles, and land clearing for development. Certain practices and businesses are at a bigger risk of contamination.



[https://www.researchgate.net/figure/Schematic-diagram-illustrating-groundwater-contamination-from-a-waste-disposal-site\\_fig1\\_299509800](https://www.researchgate.net/figure/Schematic-diagram-illustrating-groundwater-contamination-from-a-waste-disposal-site_fig1_299509800)

“As hundreds of wells often tap into the same aquifer (large underground water supply), it is essential to prevent contamination from reaching these vital underground resources.”

University of Georgia



# WELLHEAD PROTECTION PLAN

To better protect Brunswick County's vital community water source - the Castle Hayne Aquifer - from contamination the Brunswick County Commissioners adopted the Wellhead Protection Plan on January 28, 2013, with specific policies for the protection the public community well area within the NC 211 Corridor. This policy document guides the protection of the public water groundwater systems by identifying sources of potential contamination, designating the area to be protected, provides short-term & long-term contingency plan, and providing recommendations on specific uses.



## Wellhead Protection Plan Brunswick County, North Carolina



January 28, 2013  
PWS ID#  
04-10-045

Contact Name: Jeremy Sexton  
Position: Water Resources Superintendent  
jsexton@brunscoco.net  
Phone: (910) 454-0512  
Fax: (910) 457-9183  
PO Box 249  
Bolivia, North Carolina 28422



# Since the Adoption of the Wellhead Protection Plan



Brunswick County has experienced rapid growth & development.



Found trace amounts of contamination from water in the NC 211 Corridor public community wells.



Public Utilities Department approached Planning Department about implementing a zoning regulations to help protect the vital community water source in the NC 211 Corridor.



Explored ways to protect this vital community water source within the NC 211 Corridor.



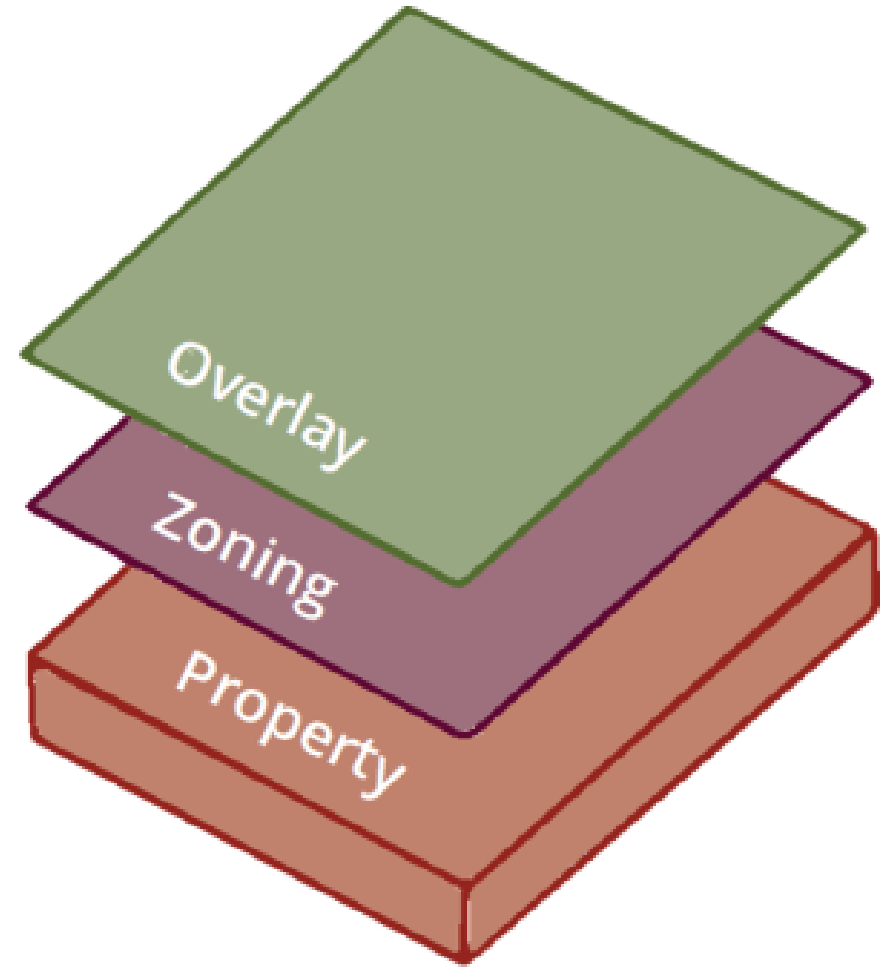
Proposing a zoning overlay district within the NC 211 Corridor.



*Joint Planning & Public Utilities Community Meeting* to present information for discussion & input.

# What Is A Zoning Overlay District?

- ❑ Zoning exists to protect the health, safety, and general welfare of county residents through the Brunswick County Unified Development Ordinance.
- ❑ Zoning Districts outline uses allowed, standards, and development requirements. Brunswick County has a variety of residential, commercial, & industrial Zoning Districts.
- ❑ A zoning overlay zoning district is applied over one or more previously established zoning districts. It establishes additional or stricter standards and criteria for covered properties in addition to those of the underlying zoning district.
- ❑ Brunswick County currently has five overlay districts:
  - ❑ *Airport Height Control Overlay*
  - ❑ *Economic Development Overlay*
  - ❑ *Transitional Office Overlay*
  - ❑ *Viewshed Protection Overlay*
  - ❑ *Water Quality Protection Overlay*





# Brunswick County, NC Wellhead Protection Area



Oak Island

Boiling Spring Lakes

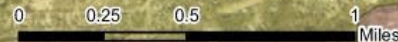
St. James

Southport-Supply Rd NC 211

Midway Rd SE NC 906



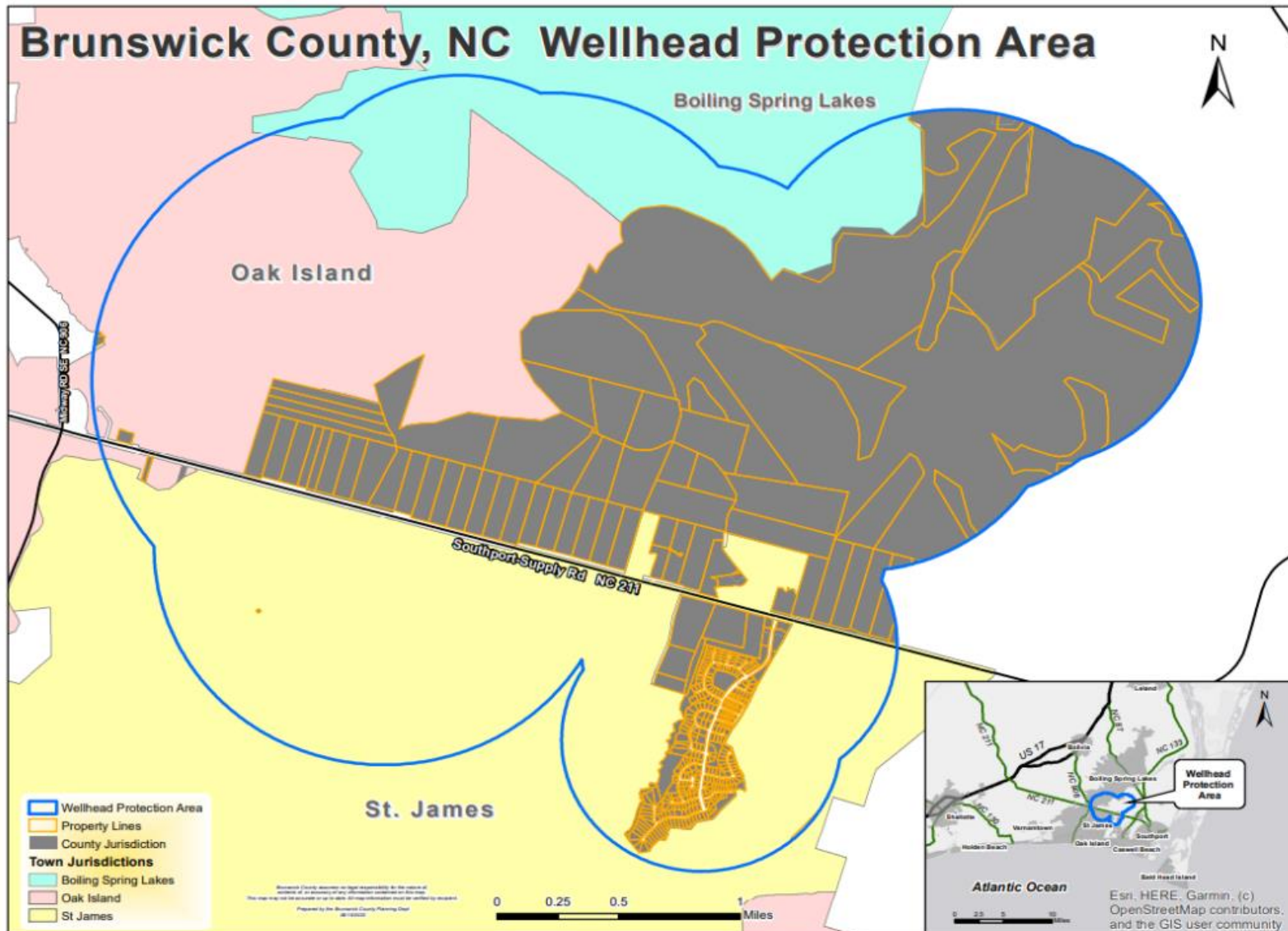
Brunswick County assumes no responsibility for the nature or  
contents of or accuracy of any information contained on this map.  
This map is for informational purposes only. It is not intended to be used for legal purposes.  
Prepared by the Brunswick County Planning Dept.  
08/18/2022



- ☐ The Wellhead Protection Area is the area that needs to be protected to impact water quality in the Castle Hayne Aquifer.
- ☐ A Wellhead Protection Area was created using a 1,500 ft buffer on the 14 community wells as outlined within the Wellhead Protection Plan.
- ☐ Includes portions of Brunswick County, Boiling Springs Lakes, Oak Island, & St. James.
- ☐ If Brunswick County adopts a Wellhead Protection Zoning Overlay District – it will only apply to areas within unincorporated Brunswick County.
- ☐ Other Jurisdictions will be asked to consider adopting regulations like a Wellhead Protection Area Zoning Overlay to help protect water in the Castle Hayne Aquifer.
- ☐ Wellhead Protection Area: 6,835.9 acres (14 wells with a 1,500-foot buffer)
  - ☐ Includes portions of Brunswick County, Boiling Springs Lakes, Oak Island, and St. James:
    - Brunswick County Jurisdiction: 3,140.8 (45.9%)
    - St. James City Limits : 1,727.8 (25.3%)
    - Oak Island: 1,313.4 (19.2%)
    - Boiling Springs Lakes: 653.9 (9.6%)



# PROPOSED BRUNSWICK COUNTY WELLHEAD PROTECTION OVERLAY DISTRICT



- ☐ Will require a text amendment to the Brunswick County Unified Development Ordinance.
- ☐ Will add requirements for new development.
- ☐ Encourages uses, practices, and industries that will help maintain and improve the water quality within the area.
- ☐ Prohibits specific uses, practices, industries that negatively impact water from the Castle Hayne Aquifer.
- ☐ Already approved development & existing businesses, uses, & practices that are prohibited in the overlay will be grandfathered and can continue but expansions & changes will be affected.
- ☐ Staff reviewed other communities with wellhead protection ordinances & a model ordinance produced by the U.S. Environmental Protection Agency (EPA).

# WHAT COULD BE DEVELOPED WITHIN THE OVERLAY??

Single-Family Residential Developments



```
graph TD; A[Single-Family Residential Developments] --> B[Townhome Developments]; B --> C[Single-Story Buildings & Structures That Do Not Have Deep Foundations/Footers]; C --> D[Clean Industries]; D --> E[Businesses & Retail Establishments That Do Not Impact Water Quality];
```

Townhome Developments

Single-Story Buildings & Structures That Do Not Have Deep Foundations/Footers

Clean Industries

Businesses & Retail Establishments That Do Not Impact Water Quality



# WHAT RESTRICTIONS COULD BE IMPOSED IN THE OVERLAY??

Uses & Practices That  
Contaminate The  
Ground & Affect Water  
Quality

Limitations On The  
Depths Of Digging And  
The Dirt Removal

Additional Buffers On  
Wetlands & Water  
Bodies

Limitations On  
Impervious Surface  
Coverage

Limitations On  
Underground Material  
Types

Prohibition On The Use  
Of Certain Chemicals

Prohibition On Mining  
Activity & Underground  
Storage Facilities

Limitation Multi-story  
Buildings & Higher  
Density Development



# Next Steps

- **Gather Community Feedback**
- **Finalize Draft of the Proposed Brunswick County Wellhead Protection Zoning Overlay District**
- **Release the Draft of the Wellhead Protection Zoning Overlay District Text Amendment to the Unified Development Ordinance online for Public Review & Comment by September 22, 2022**
- **Brunswick County Planning Board Public Hearing & Recommendation anticipated for October 10, 2022**
- **Brunswick County Board of Commissioners Public Hearing & Consideration anticipated for November 21, 2022**



# BREAKOUT SESSION

